THE PROLONGATION OF LIFE

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1. Introduction

In this paper we would like to discuss the relation between quantity and quality of life, concerning the prolongation of life of human beings. *Quantity* of life can be seen as the age of individual people, or the amount of years an individual lives. *Quality* of life is somewhat harder to define, but it comprises happiness in life, the joy of living and the state in which one lives his life (e.g. health or sickness).

Due to developments in the medical sciences and various new applications of medical research humans are able to prolong life substantially (Fukuyama, 2002). This is beneficial for many individuals, because it gives them the opportunity to enjoy life longer. But the prolongation of life also has various other consequences for mankind, both individual as well as societal, which may have negative implications for the perceived quality of life. Thus, whereas humans have increasing control over the quantity of their own existence, it is to be questioned whether this increase in the quantity of life is balanced with a satisfying[1] quality of life. The question is then whether the prolongation of life is a favourable trend or whether we should start controlling our own control on the prolongation of life. In other words, is it relevant to consider the possibility of going back to a state in which people live shorter but happier lives? The following table summarises this issue:

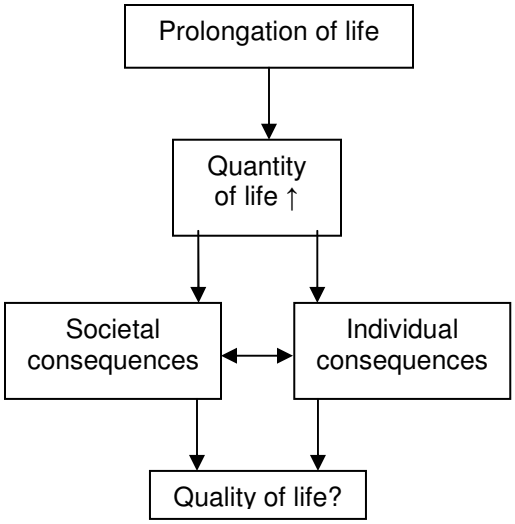

Table 1.1: what are the consequences of the prolongation of life?

This paper is written in the context of ethics. We will use an utilitarian perspective to analyse our subject while we are considering the 'costs and benefits' and 'happiness and pain' of the prolongation of life for the individual and for society. In the next section we will explain this perspective, after which we will discuss the individual and societal consequences of an increasing quantity of life. In the following section the consequences are linked to the theory. The final section will include the discussion as well as our conclusions.

[1] We are using *satisfying* quality, because we cannot expect the quality of life to be constant during ones life. The quality of life should be above a certain level for people to enjoy life. What this level is, is a new discussion and we will not elaborate on this here.

2. Theoretical orientation

Throughout this paper we will follow some guidelines in order to keep the sections and paragraphs structured. Therefore, we will use the individual on the one hand and society on the other hand to analyse our field of problem. This section will firstly deal with quantity and quality of life, followed by a short description of the perspective of utilitarianism.

2.1 Quantity and quality of life

As has been discussed above, this paper will deal with the relation between quantity and quality of life concerning the prolongation of life. Above, the concepts of quantity and quality of life have been shortly explained already.

In order to construct a simple theoretical framework for quantity and quality of life, we will assume that both quantity and quality can be high or low. To not make things too complex, we further assume that there is no such thing as 'medium' quantity or quality. A high quantity refers to an 'old individual', e.g. 65 years and older. A low quantity refers to a 'young individual' e.g. 64 years or younger. A high quality refers to an individual that is on average happy with his or her life in relation to his or her age. A low quality refers to an individual that is on average not happy with his or her life. Below, a simple table summarises the simplified possibilities of the model.

		Quantity	
		Low	High
Quality	Low	1	2
	High	3	4

Table 2.1: quantity and quality of life for an individual

A highly relevant matter to deal with here is to have a look at number two of table 2.1. The combination makes clear that it concerns an individual that is already old – thus a high quantity – but is not happy with his or her life – which is low quality. Naturally this is certainly not a desirable situation for an individual. But what if such a situation becomes the average of a whole country, or even of the whole Western world? This is one of the issues that we will deal with in this paper.

Table 2.1 is a very simple but understandable way to make it possible to discuss the issue of the prolongation of life for an individual. Since we are not prolonging the life of only one individual, we cannot avoid to make the step towards society.

To make this possible we will discuss the influence of one generation on the other. Again, we have made a simple table for this. Just as we have done above, we will use the word quantity to point to age, but this time of a generation instead of an individual. A generation with a low quantity is a young generation with an average age of 64 or younger. A generation with a high quantity is an old generation with an average age of 65 or older. Again, number two of table 2.2 is relevant for our near future. It describes the influence of a generation with a high quantity on a generation with a low quantity. This is not a problem if these generations are balanced out well considering the amount of individuals that are part of it. But what happens with a small generation with a low quantity if there is also a large generation with a high quantity? This issue will be dealt with further on in our paper. Below we will continue with connecting quality of life with the perspective of utilitarianism.

		Influence from	
		Low quantity	High Quantity
Influence on	Low quantity	1	2
	High quantity	3	4

Table 2.2: influence from one generation to another

2.2 Utilitarianism and the prolongation of life

Our concern in this paper is the effects of the prolongation of life on quality of life. Quality can be poor or excellent, including many other variants in between. Naturally, a poor quality life is an unwanted or negative state of life. On the other hand, an excellent quality of life is a very important and positive state of life. Therefore, poor and excellent quality can be seen as applicable on the theoretical perspective of utilitarianism.

Utilitarianism is the most important variant of consequentialism. Especially Bentham is important in this case. He starts his book 'Principles of morals and legislation' (1789) with explaining the core of utilitarianism:

> By the principle of utility is meant that principle which approves or disapproves of every action whatsoever, according to the tendency which it appears to have to augment or diminish the happiness of the party whose interest is in question….if that party be the community in general, then the happiness of the community; if a particular individual, then the happiness of that individual….. "The interest of the community then is, what? – the sum of the interest of the several members who compose it" (Bentham, 1789 in Brittan, 1983).

Thus, the ultimate principle for judging the rightness or wrongness of all actions is the principle of utility or the greatest happiness principle. It implies that an action is right if the outcome offers 'the greatest good for the greatest number'. Consequently, it is possible to judge whether an action is right or not. This can be done by verifying how a certain action works out on all the individuals that are affected by this action. The amounts of 'pleasure' and 'pain' that it produces for each individual have to be calculated in order to come to an cost-benefit like analysis. In short, when the total of 'pain' of all individuals is higher than the total pleasure of all individuals an action is to be judged 'wrong' (Van den Belt, 2004). Consequently, utilitarianism can be used for analysing the consequences of the prolongation of life for both the individual and society in general.

3. Consequences of the prolongation of life

In the introduction we have stated that due to improvements in the medical sciences the human race has a growing capacity to prolong life. In this part of the paper we will discuss some of the potential consequences of this process. We will first mention individual consequences, after which we will focus on societal consequences.

3.1 Individual consequences

Even though intuitively people want to live as long as possible, it is unclear whether a longer life will also be a happy and healthy life. The mere fact that we are able to keep people alive does not necessarily mean that the value of these extra years is as great as the value of earlier years (or 'great enough', for that matter). At this moment we don't know whether medical developments will be able to keep older people physically and mentally vital, or whether 'society will increasingly come to resemble one giant nursing home' (Fukuyama, 2002; page 67). If people have to live their last years in pain, dependency and decreasing mental capabilities, this may seriously hamper the enjoyment people experience from living longer, and thus the quality of their lives. Also, because older people are beyond their reproductive years and do not have to work anymore, the webs of social obligations in which they are enmeshed will be less tight. They may therefore see their lives as emptier and lonelier; the obligations which make life satisfactory are no longer theirs. Whereas the freedom of these obligations may be a

well-deserved reward after years of hard work, it may seem pointless if this period goes on and on. Medical technology then resembles a devil's bargain; it gives longer life, but with reduced mental and physical capacity (Fukuyama, 2002).

3.2 Societal consequences

Whereas the above consequences concern personal well-being and are therefore rather intangible and difficult to measure, the societal consequences of the prolongation of life are more practical. We divided them into financial and social implications for society; we will first discuss two financial consequences, and then two social implications.

3.2.1 Social security

One of the most important societal consequences of the prolongation of life is that the average age of populations will increase substantially. This rise is already to be seen; it is expected that in 2050 the median age of the population of the United States will have risen to 40, that of Germany to 54, that of Japan to 56 and that of Italy even to 58. (In 1850 the median age of the US population was 19; it had risen to 34 in 1990). These estimates do not assume any dramatic increases in life expectancies, so if the promises of medical improvements do come true several developed countries may see half their populations of retirement age or older. It is clear that such dramatic increases in average ages will also have dramatic societal consequences. One of the most obvious is related to social security (Fukuyama, 2002). When social security was first established there were several working people for every retired person. But with people growing older this liability will increase, resulting in a situation in which there are several retired people for every working person. In some countries, old-age dependency ratios may more or less double within 40 years (Westerhout and Pellikaan, 2005). It is clear that such a situation will result in problems with social security and possibly the end of the system as we know and value it today. Obviously, this is damaging society as a whole, and in that way it has negative consequences for the quality of life of individuals.

3.2.2 Health care

New developments in medical sciences are paying off; people do indeed get older over time. In the United States life expectancy at birth was 48.3 for men and 46.3 for women in 1900, but this rose to 74.2 for men and 79.9 for women in 2000 (Fukuyama, 2002). People born in The Netherlands in 1950 may now expect to live to become 86 years old (NOS Journaal, 13/06/2005). And they do so in relatively good health; disability rates among the elderly have declined and in general their health status is improving (Westerhout and Pellikaan, 2005).

However, the elderly still use a substantial part (about one third) of medical spending. Especially in the last years of people's lives, health care is very expensive (Battin, 1987). CPB Netherlands Bureau for Economic Policy Analysis confirms this; although the elderly do not necessarily require extra health care during their older years, health care expenditure of people in the last year of their lives is substantially larger than that of survivors of the same age (Westerhout and Pellikaan, 2005). But in this stage of life health care is also very inefficient, since prognoses are poor and chances to get better are small, as is the amount of additional years to be gained. One unit of medical care spent on an older person therefore results in less benefit than if spent on a younger person (Battin, 1987).

However, health care expenditure will increase in absolute terms as well as in percentage of GDP. Also, whereas pension expenditure will peak around 2035 (because the baby-boom generation gradually passes away), the increase in health care expenditure will keep going up, due to the ongoing increase in life expectancy

(Westerhout and Pellikaan, 2005). Health care may then become a scarcity, in which case we will face a distributive dilemma. By implication some people will have to be excluded from care. In that case, there is no doubt that the quality of life for society as a whole will diminish; an increase in the quantity of life results in an increased health care expenditure, which will again have negative consequences for the well-being of society as whole, especially if it means that some people will have to be excluded from care.

3.2.3 Social conflict

Fukuyama (2002) argues that due to the prolongation of life politics will change, which will have important consequences for international relations. For example, voting age populations will be heavily feminised since more women will live to advantaged ages than men. The group consisting of elderly women could therefore well develop into one of the most important blocs of voters. Since women generally have different attitudes towards foreign policy and national security, this may have its reflection on (international) politics.

Also, the availability of military manpower will shrink, as well as people's willingness to tolerate battle casualties amongst their young, since the percentage of the young within society is smaller. Decreasing willingness to fight and risk lives may be reinforced if medical developments give people the opportunity to live substantially longer. Especially if death seems no longer inevitable but preventable, people may no longer be prepared to sacrifice their lives for others.

With the western political world dominated by elderly women and the South being inhabited by 'super empowered angry young men' (Fukuyama, 2002; page 63) the dividing line between the developed and the developing world will no longer be just a matter of income and culture, but also of age and gender. Median ages may vary between 20 in the developing and 60 in the developed world. This may result in large amounts of immigrants invading the West. These working-age immigrants will live alongside an elderly, native born population. Obviously, such a situation increases risks of social conflicts, which decreases people's quality of life.

3.2.4 Stagnation

If people live longer, this also means that internal structures of society, such as social hierarchies (meaning that some people are higher in reputation and rank than others) will change. Many social hierarchies are age-graded, which makes functional sense when age is correlated with characteristics like physical power, learning, experience and judgement. However, these advantages disappear after a certain age, so that correlations between age and positive characteristics start going in the opposite direction. In those situations, the traditional hierarchical position of elderly people may be questioned. Many democratic organisations therefore have impersonal formal rules, like mandatory retirement ages, to replace people. These rules make personal judgements about individuals unnecessary. However, since they often also discriminate against older people who are still perfectly able to work, ageism ('the stereotypic and often negative bias against older adults' (www.webster.edu)) has entered the political realm. But whereas ageism is a legitimate concern it is important to keep in mind that political, social and intellectual changes occur much slower in societies with substantially longer life spans. The reason for this is that people high in the hierarchy want to keep their positions and the status and power associated with them. But new generations bring progress, change and new ideas; political as well as intellectual change often occurs at generational intervals. The prolongation of life thus makes it more difficult for new generations to climb up, which may result in stagnation (Fukuyama, 2002). It is clear that

stagnation works against the society as a whole and thus decreases the quality of life of individuals.

4. Theory and the prolongation of life

In relation to our subject, especially the quality of life is relevant to deal with here. A low quality of life – as described above – can also be interpreted as pain. And a high quality of life can be explained as pleasure. When pleasure meets the combination with a high quantity – an old individual – we do have a perfect situation (see number four of table 2.1). In this sense, the action of prolonging life for a specific individual is morally just. But what if it concerns a situation when the life of an individual is being prolonged, while he or she considers his or her life to be of a low quality? In other words, what if the life of someone is extended when the individual is psychologically or physically in pain? Is the pain in this case higher than the pleasure?

The example already was quite complicated with a controlled action concerning one individual. But what if we take a whole society as an example? The average prolongation of life of people in the Western world during the last fifty years has been almost an automatic process. It is the result of a steady development of scientific research on medicines and the application of this research into our daily lives. We have never really asked ourselves about the implications of our actions, which are at first sight a good intention. Thus the problem seems to be that we are not in control of our own habit to prolong life of human beings, while on the other hand we are increasingly controlling our own existence in relation to birth rates and elderliness.

Another problem of looking at society as a whole instead of looking at one individual is that it forces us to not only look at the implications on the short term, but especially at the implications of the long term. To relate this with the perspective of utilitarianism, the question is whether our 'uncontrolled habit and automatic action' to prolong life of all human beings on the long term offers more pleasure or more pain for society as a whole.

5. Discussion

In the following section we discuss the validity of an age rationing policy as a solution to the problem we described above.

5.1 Age rationing ethically justified

In the last section, taking a utilitarian perspective, we stated that the 'pain' that society feels from the prolongation of life may be greater than the 'pleasure' this prolongation gives. Whereas for an individual the net benefit of a longer life is open for discussion, it is safe to say that for society as a whole the prolongation of life has negative consequences overall and reduces the quality of life.

Battin (1987) offers a solution which may solve (part of) the problems for society which result form the prolongation of life, as well as the individual problems of a reduced quality of life. She states that when health care is scarce and people have to be excluded, those people should be the elderly. Reasons for this are the facts that their treatments are often expensive (as explained in the previous section), their prognoses poor and their lives already lived for the most part. In some countries age rationing is already practiced; in the United States and Great Britain for example, there are age

ceilings for donor transplants, renal dialysis and joint replacements in place. Also in several primitive and historical societies elderly people were obligated to bring their lives to an end. Even though data may not be fully reliable, there seems to be a variety of senicide practices (abandonment, direct killing and socially enforced suicide) among the Eskimo's, the early Japanese and migratory American Indian tribes. Various thinkers in history (like Plato, Thomas More and Nietzsche) have also recommended denial of treatment, euthanasia or socially assisted rational suicide[2]. The similarity of these differing practices is that they are all 'practices of societies which communicate to their members that when they reach advanced old age or become irreversibly ill, it is time to die, and that they have an obligation to acquiesce or cooperate in bringing this about' (Battin, 1987).

Battin (1987) argues that an ethical justification for an age rationing scheme can be found in the fact that rational self-interest maximisers would 'sign up' for it. In other words, everybody in society (assuming that people are rational self-interest maximisers) would agree to such a programme, because it would give them the greatest benefit. This can be explained in the following way; if resources are freed from the elderly and transferred to the young, this can bring about huge efficiency gains. One unit of medical care spent on a young person will have much more effect in preserving life and maintaining normal species-typical functions than when spent on older people. Since people are behind the 'veil of ignorance' and they don't know the events of their own aging and death, they will agree to a system which results in an overall distributive gain; the least advantaged (those who would otherwise die young) benefit most so the greater the gain in life prospects for all members of society (except for the first generation).

However, Battin (1987) also recognises the fact that if elderly people are denied treatment, they will not simply die straight away. They will suffer illnesses without adequate treatment. When cheap treatments are still available, periods of decline will even be prolonged whereas the more expensive treatments which make the diseases tolerable will be denied. Death should therefore be deliberately brought about before serious decline sets in. Obviously, lives will be shorter in such a situation, but merely because the period of decline is shorter; quality of life therefore remains relatively high. This means that people's lives will have to be ended when their quality of life is still comparatively high. This is a controversial statement, but if we look at it from a utilitarian perspective, it seems to hold true; it reduces pain and increases pleasure, or in other words, it increases quality of life because society is better of as well as the individuals within it.

Battin's justifications for age rationing seem to hold in the case of rational self-maximising individuals, but one can imagine that people aren't always rational self-maximisers. They may not be able to compare long-term versus short-term benefits or may not overcome the somewhat morbid idea of killing people when they require too much care. Still, Battin argues that fear of death is a product of social beliefs and expectations, which can be altered, developed and influenced. There are various social expectations within society where people live up to because it is expected from them, even if it is against their immediate gain (for example the expectation of marriage). Also, we argue that when health care becomes a real scarcity, people will be more ready to accept radical solutions.

At the same time it is also important to keep in mind that for some people within society it is not totally unthinkable to end their lives when they start to loose their quality.

[2] Not all of these practices have been humane; the Nazi's actively terminated the lives of the terminally ill, debilitated or retarded Aryans. This was advertised as beneficial for themselves as well as for the state, but it became the training ground for concentration camp personnel (Battin, 1987).

Old people may live emptier and lonelier lives and they have more chances of getting serious, life threatening illnesses. Carmel and Mutran (1999) found that in that case many elderly people do not wish to make use of Life Sustaining Treatments (LST). 70 % of their respondents had stable preferences over time with regards to the use of LST, and 86 % of those did not want to prolong their lives. There is also a general trend that elderly who do change their preferences regarding LST change it towards a reduced wish for treatment; in general the declared will of elderly people to have life prolonged in severe illness conditions weakens over time.

5.2 Some concerns

If age rationing schemes are indeed used in society, there are a few things which should be kept in mind. First of all, they can only be used when protection against abuse is incorporated within the system. Abuse of the policy would be to use it to cause harm to individuals or to change the practices which it permits in such a way that the policy becomes unstable (Battin, 1987). Protection against abuse would be the preservation of choice (compliance with the policy is voluntary; no-one has a duty to die, only a duty to refrain from the use of further medical resources), the rejection of a fixed age of death (the policy must be based on expected time until death) and a sufficient amount of public awareness (people should know the policy and understand the rationale) (Battin, 1987). Second, care should be taken that the perceived scarcity in health care is real. Degrees of scarcity are always a result of larger distributive choices amongst other kinds of social goods, like culture, social welfare or military protection. Thirdly it is important that the care which is distributed away from the elderly is indeed redistributed to the young and not used for other purposes. Finally, a just system of rationing requires a background of just institutions to ensure its operation, which is hardly ever in place.

5.3 A solution?

It is clear that age rationing may be a solution for a situation in which there is a scarcity of health care, even though such a policy may be a little controversial. Age rationing may also solve the individual problems of a decreasing quality of life, although this alone can never be a justification, since in this case older people can themselves take the decision to end their lives and do not need any policies for this (except for a policy which permits euthanasia).

However, age rationing may not solve the other problems with the prolongation of life as we have recognised them. This, because older people in general live longer in better health, so an age rationing policy will only let people live a short time shorter. The prolongation of life will therefore still result in problems with social security and may still result in stagnation and social conflict. The effects of age rationing on problems resulting from the prolongation of life will therefore only be minimal.

6. Conclusion

With this paper we tried to show that we are facing real problems in the near future if the prolongation of life continues. From the perspective of utilitarianism it can be argued that the overall costs for both the individual and the society may be higher than the benefits, if it comes to the prolongation of life. At this moment, there does not seem to be enough discussion about these problems but we would like to urge that more and further going discussions in which we should not back away at the first instance from controversial solutions. These solutions may be necessary.

Secondly, a change in attitude is needed in politics; politicians tend to think on short-term (for a period of 4 or 5 years), but this time long-term thinking is absolutely necessary. With long-term we mean at least more than two decades. However, this may be very difficult, because citizens also like to see their short-term problems solved. We live in an individualised society in which people tend to think about themselves rather than about the future of next generations.

Concluding, we state that with the prolonging life more emphasis should be placed on the quality of life. If the prolongation of life is accompanied by the various individual and societal problems as described in section 3, the overall benefit of this prolongation to society is negative. Moreover, since the state of the society has its impacts on individuals, a society which is worse off will influence the quality of life of individuals negatively.

7. Literature

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